

REMARKS

Amendments to the claims

Claims 1-36 are pending in the present application. With this response, Applicant amends claims 1, 10, 11, 19, 20, 25, 28, 31, and 34, and cancels claims 2, 14, 15, 23, 24, 26, 27, 29, 30, and 35. Support for the amendments to the claims can be found, for example, at page 11, lines 4-23 of the application as originally filed. All amendments and cancellations are made herein without prejudice.

Claim Rejections – 35 USC § 112

In the Action, the Examiner rejects claims 1-18, 23, 25-27, 29 and 31-36 under 35 USC § 112, second paragraphs. The Applicant has amended the claims as shown and submits that the Examiner's rejections have been overcome.

Claim Rejections – 35 USC § 102

In the Action the Examiner rejects claims 1-3, 6-8, 10, 15-19, 24, 25, 27, 28, 30 and 34 under 35 USC § 102(b) as being anticipated by U.S. Pat. Pub. 2002/0036814 to Mueller. The Examiner also states that the rejected claims are not limited to any spectral measurement. Applicant notes that all pending claims as enclosed with the present response recite "*a mixed signal adapted to be input to a sample whose spectral properties are to be detected*". Such feature is clearly not present in Mueller, which related to a laser communication system, the goal of which is to exploit as much as the available bandwidth as possible and where the absence of spectral anomalies is desired. Therefore, Mueller does not disclose and actually teaches away from a "*shift of one . . . sideband component relative to the carrier and to the other . . . sideband components*" as claimed in the independent claims of the present application. Therefore, Applicant submits that the rejections of the Examiner have been overcome.

Claim Rejections – 35 USC § 103

In the Action, the Examiner rejects claims 1-3, 6-30, and 34-36 under 35 USC § 103(a) as being unpatentable over U.S. Pat. No. 6,873,405 to Kido. Applicant respectfully disagrees with the

Examiner and submits that independent claims 1, 10, 19, 25, 28 and 34 are patentable over Kido for the reasons that follow.

While Kido discloses (Figures 1 and 6 shown by the Examiner in the Action) an object to be measured 10 and a detecting element 14, 14b, the signal analyzed by Kido (further amplified through amplifier 16) is compared with a reference signal fIF in a comparator 32. Therefore, Kido is using a known lock-in detection scheme applied to THz frequencies. In order for this scheme to work, the object to be measured 10 must have the same absorption and phase shift over the bandwidth of the signal input thereto. In other words, Kido does not disclose and teaches away from distortion of a sideband of the input signal with respect to the carrier or another sideband of the same input signal. What Kido discloses is “attenuation or transmission delay” of the input signal (see, e.g. column 8, lines 40-41), which is then compared with the reference signal fIF by way of comparator 32. Therefore, the signal input to object 10 in Kido only acts as a probe, not as a reference, the reference being reference signal fIF. On the other hand, independent claims 1, 10, 19, 25, 28 and 34 of the present application recite a “*mixed signal [having] a frequency spectrum comprising a carrier . . . and at least two sideband[s]*” and detection of “*shift of one of said . . . sideband[s] relative to the carrier and to the other . . . sideband[s]*.” Such relative shift is not disclosed in Kido.

Therefore, independent claims 1, 10, 19, 25, 28 and 34 are deemed to be patentable in Kido, together with the claims depending thereon, by virtue of the patentability of the base claims.

In the Action, the Examiner further rejects claims 4 and 5 under 35 USC § 103(a) over Kido, further in view of Mueller and IEEE-7/2000 to Ali, and claims 31-33 under 35 USC § 103(a) over Ali and Mueller. The Applicant submits that dependent claims 4 and 5 depend on amended claim 1, that independent claim 31 as amended also recites detection of “*shift of one of said . . . sideband[s] relative to the carrier and to the other . . . sideband[s]*,” and that dependent claims 32 and 33 depend on amended independent claim 31. Therefore, also claims 4, 5 and 31-33 are deemed to be patentable over the cited art, at least because the above features is not disclosed in the cited references.

Conclusion

In view of the above, the Applicant submits that the application is now in condition for allowance and respectfully urges the Examiner to pass this case to issue. The Examiner is respectfully invited to telephone the undersigned attorney as needed in order to advance the examination of this application.

* * *

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

<p>I hereby certify that this correspondence is being deposited with the United States Post Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on</p> <p><u>July 10, 2006.</u></p> <p>Date of Transmission</p> <p><u>Shannon Tinsley</u> (Name of Person Transmitting)</p> <p><u>Shinsley</u> (Signature)</p> <p><u>July 10, 2006</u></p> <p>(Date)</p>	<p>Respectfully submitted,</p> <p></p> <p>Alessandro Steinfl Attorney for Applicants Reg. No. 56,448 LADAS & PARRY LLP 5670 Wilshire Boulevard, Suite 2100 Los Angeles, California 90036 (323) 934-2300 voice (323) 934-0202 facsimile asteinfl@ladas.com</p>
---	---

Enclosed: Petition and Fee for extension of time
Postcard